

WHAT IS CLAIMED IS:

1. A semiconductor device comprising:
 a substrate using a material containing one selected from LnABO_4 and $\text{LnAO}_3(\text{BO})_n$ for a basic structure (where Ln: rare earth element selected from Sc, In, Lu, Yb, Tm, Ho, Er, Y or the like, A: selected from Fe, Ga and Al, and B: selected from Mn, Co, Fe, Zn, Cu, Mg and Cd); and
 a semiconductor layer formed on said substrate by using a material selected from group II oxides such as zinc oxide ZnO , zinc magnesium oxide $\text{Mg}_x\text{Zn}_{1-x}\text{O}$, zinc cadmium oxide $\text{Cd}_x\text{Zn}_{1-x}\text{O}$, cadmium oxide CdO or the like.

2. The semiconductor device according to claim 1, wherein as a material for said substrate, one selected from groups consisting of ScAlMgO_4 , ScAlZnO_4 , ScAlCoO_4 , ScAlMnO_4 , ScGaZnO_4 and ScGaMgO_4 , $\text{ScAlZn}_3\text{O}_6$, $\text{ScAlZn}_4\text{O}_7$ and $\text{ScAlZn}_7\text{O}_{10}$, $\text{ScGaZn}_3\text{O}_6$, $\text{ScGaZn}_5\text{O}_8$ and $\text{ScGaZn}_7\text{O}_{10}$, and $\text{ScFeZn}_2\text{O}_5$, $\text{ScFeZn}_3\text{O}_6$ and $\text{ScFeZn}_6\text{O}_9$ is used, and ZnO is used as a material for said semiconductor layer.

3. The semiconductor device according to claim 1, wherein as a material for said substrate, one selected from groups consisting of $\text{ScAlO}_3(\text{ZnO})_n$, $\text{ScFeO}_3(\text{ZnO})_n$, $\text{ScGaO}_3(\text{ZnO})_n$, $\text{InFeO}_3(\text{ZnO})_n$, $\text{InGaO}_3(\text{ZnO})_n$, $\text{InAlO}_3(\text{ZnO})_n$, $\text{YbAlO}_3(\text{ZnO})_n$ and $\text{LuAlO}_3(\text{ZnO})_n$ is used, and ZnO is used as a material for said semiconductor layer.

4. A semiconductor device comprising:
 a substrate using a material containing one selected from ScAlBeO_4 , ScBMgO_4 , ScBBeO_4 and $\text{InAO}_3(\text{MgO})_n$ (here, A: selected from Fe, Ga and Al) for a basic structure; and

~~a semiconductor layer formed on said substrate by using a material selected from groups consisting of GaN, AlN, InGaN and AlInN.~~

5. The semiconductor device according to any one of claims 1 to 4, further comprising: a buffer layer, between said substrate and said semiconductor layer, using an insulating material by using a material having a composition or a structure identical to that of said semiconductor layer as a base and slightly doped or undoped with impurities.

6. The semiconductor device according to claim 5, wherein ZnO is used for said semiconductor layer and, for said buffer layer, one selected from an insulating material such as insulating ZnO or the like slightly doped with an element capable of taking valence of 1 value or a group V element, and an insulating semiconductor containing undoped and pure insulating ZnO, is used.

7. The semiconductor device according to any one of claims 1 to 6, further comprising an insulating layer formed by using a material identical to that for said substrate for a basic structure.

8. The semiconductor device according to any one of claims 1 to 7, further comprising: a light emission layer formed on said semiconductor layer by using a material having a composition or a structure identical to that of said semiconductor layer as a base; and a second semiconductor layer which is formed on said light

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